

① What is 15% of 20?

$$\frac{x}{20} \times \frac{15}{100} = \frac{100x}{100} = \frac{300}{100} \quad x=3$$

$$\begin{array}{r} 20 \\ .15 \\ \hline 100 \\ 200 \\ \hline 3.00 \end{array}$$

② 150% of what is 42?

$$\frac{42}{x} \times \frac{150}{100} = \frac{150x}{100} = \frac{4200}{100} = 42 \quad x=28$$

$$42 \div 1.5 = 28$$

$$1.5 \times 28 = 42$$

$$1.5 = 150\%$$

$$1.5 \cdot x = 42$$

$$x = 42 \div 1.5$$

# 9/17 Proportion/Percentages

$$\text{Proportion} \rightarrow \frac{a}{b} = \frac{c}{d} \Rightarrow \frac{\text{part}}{\text{whole}}$$

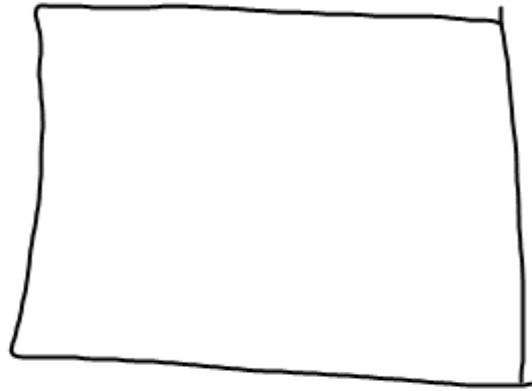
$$\text{percentage} - \frac{\text{part}}{\text{whole}} = \frac{\text{percentage}}{100} = \frac{25}{100}$$

$$15\% \Rightarrow \frac{15}{100} \Rightarrow .15\% = .15$$



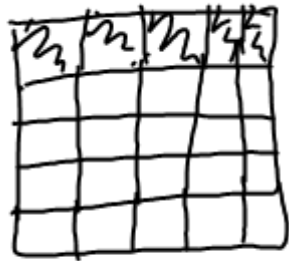
② proportion ③ diagram

56% of the class is male  
 $56\% \times 25 = \text{male}(14)$



① What part of the whole has blonde hair

② proportion  $\frac{5}{25}$

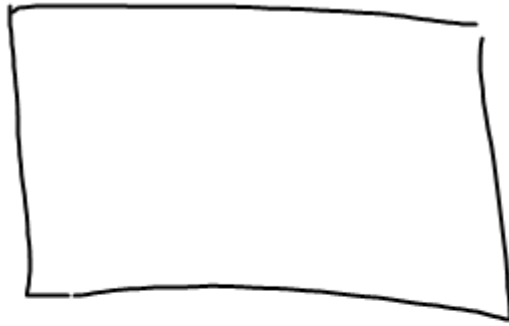


③ diagram

④ find the percent  $\frac{5.4}{25.4} = \frac{20}{100}$

⑤ write it in a complete sentence

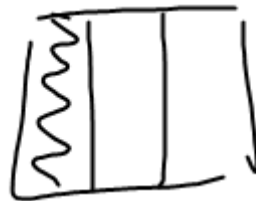
20% OF CLASS has Blonde HAIR.



30% of the school  
is wearing shorts

$$\frac{30}{100} \div 4 \Rightarrow \text{class } \frac{7.5}{25}$$

$$\frac{30}{100} = \frac{3}{10} = \frac{1}{3}$$



$$\frac{30}{100} \times \frac{x}{30}$$

$$\frac{900}{100} = \frac{100x}{100}$$

$$9 = x$$

1. 16% of 200 is what?

2. 130% of 90 is what?

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3. 60 is what percent of 180?

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4. 25% of what is 64?

5. a basketball team makes every  $\frac{5}{8}$  shots, what percent do they miss?

6. a loaf of bread cost 1.39 plus 6% tax, how much will you pay?

7. a water bottle is 20% larger than a cup which holds 12oz. how much does the water bottle hold?